All-Cause Admissions and Readmissions Measure

ADDENDUM TO FINAL REPORT
FOR MEASURE #2496:
Standardized Readmission Ratio (SRR)
for Dialysis Facilities

July 2015

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NATIONAL QUALITY FORUM

Contents

Summary

Measure #2496: Standardized Readmission Ratio (SRR) for Dialysis Facilities is a new submission to NQF. This measure is defined as the ratio of the number of index discharges from acute care hospitals that resulted in an unplanned readmission to an acute care hospital within 30 days of discharge for Medicare-covered dialysis patients treated at a particular dialysis facility. The actual number of readmissions is compared to those that would be expected given the discharging hospitals and the characteristics of the patients as well as the national norm for dialysis facilities.

During the review of measure #2496, the All-Cause Admissions and Readmissions Standing Committee, the Consensus Standards Approval Committee (CSAC), and the NQF Executive Committee agreed that this measure captured a high-impact area of measurement with the overall readmissions rate at approximately 30 percent, and the readmissions rate for hemodialysis patients at approximately 36 percent. The Standing Committee noted that care transition measures need to be developed and implemented in order to promote coordination and shared accountability across the care continuum. Readmission measurement should reinforce that all stakeholders have a responsibility to collaborate to improve performance on this important issue of healthcare quality, noting that, while many settings may not have been historically responsible for admissions and readmissions into hospitals, solving this quality problem may require new roles for stakeholders. However, throughout the Consensus Development Process (CDP) concerns about various aspects of the measure were raised, including the appropriateness of attributing readmissions to dialysis facilities; issues related to risk adjustment, testing, and intended use; and concerns of potential unintended consequences of the measure. The Final Report includes a full reading of the Standing Committee deliberations and comments received on the measure.

In order to address concerns raised about this measure, NQF undertook an extensive consensus-building process to prioritize the concerns raised by various stakeholders throughout the CDP and to identify an agreeable path forward. This effort resulted in endorsement of measure #2496 with three conditions: (1) CMS will exclude from the SRR measure numerator and denominator all index discharges resulting in readmissions occurring within the first three days following discharge from the acute care hospital; (2) CMS will work with the appellants to identify and test additional risk adjustment factors within one year; and (3) CMS will identify a mechanism by which facilities can have access to more updated information on their crude (i.e., nonadjusted) readmission rates within one year.

Background

Measure #2496 was reviewed in the Consensus Development Process (CDP) and evaluated against NQF's standard evaluation criteria by NQF's All-Cause Admissions and Readmissions Standing Committee. The Committee's discussion and ratings by the criteria are summarized in Appendix A. Throughout the review of the admission and readmission measures, several overarching issues emerged that were factored into the endorsement recommendations for the measures. One of the main concerns raised about this measure was the provider attribution methodology. Many stakeholders questioned whether it would be appropriate to hold dialysis facilities accountable for readmissions given their

limited role in management of care transitions, particularly if the readmission occurred within three days of post-acute discharge.

The All-Cause Admissions and Readmissions Standing Committee discussed measure #2496 extensively both during their in-person meeting on May 5-6, 2014, and after the public comment period. At both points, the Standing Committee was unable to reach consensus on this measure due to concerns with the measure specifications. In November 2014, the CSAC convened and reviewed all of the Standing Committee's deliberations, particularly the Standing Committee's supportive votes on the measure's individual subcriteria (e.g., evidence, performance gap, high impact, reliability, and validity), the NQF Member and public comments, NQF Member voting results, and the feedback from an NQF all-Member call, which took place in October 2014. While acknowledging the various concerns raised by stakeholders about this measure, the CSAC approved measure #2496 for endorsement. The CSAC generally agreed that when this measure is used in conjunction with NQF-endorsed measure #1463 - Standardized Hospitalization Ratio for Admissions, dialysis facilities and hospitals would be further incentivized to work together to coordinate care and reduce avoidable readmissions.

In December 2014, NQF's Executive Committee unanimously ratified the CSAC's recommendation to endorse this measure, with the condition that the Admissions and Readmissions Standing Committee would re-evaluate this measure during the NQF sociodemographic status (SDS) trial period to examine the impact of SDS variables on this measure. NQF received an appeal on this measure in January 2015. The appeal raised issues about the measure and the process for its endorsement. In particular, the appeal noted that the measure lacked consensus throughout the process and that additional issues with the measure specifications should be addressed prior to endorsement. After reviewing the appeal, and adjudication of the measure through the CDP, the Executive Committee requested that NQF staff facilitate a process to bring the appellants and the developer together to prioritize the major issues and identify a path forward for the measure.

Consensus-Building Process Undertaken

NQF staff held separate calls with the appellants, CMS, and the measure developers on May 8, 2015 to identify the highest priority issues and where there might be room for compromise. NQF held a joint in-person meeting on May 13, 2015. The purpose of this meeting was to identify areas of critical concern among the appellants and identify short- and long-term options for an agreeable path forward. During this meeting, CMS and the appellants, represented by the Renal Physicians Association and by the American Society of Nephrology, as well as members of the CMS Technical Expert Panel (TEP), all considered options for addressing the critical concerns. NQF staff presented the results of the consensus-building activities on the NQF Renal Member Network call on June 18, 2015.

Consensus-Building Results

The appellants and the developer discussed a range of topics that were raised throughout the CDP, and were able to agree upon several immediate and future changes to the measure specifications, as well as additional support as the measure is implemented to enable providers to engage in more effective quality improvement. These areas of agreement are described below.

Attribution/Exclusions

Concern: The top concern raised throughout the review of the measure was the appropriateness of attributing readmissions to a dialysis facility within the first three days after hospital discharge. The appellants noted that it is likely that these readmissions would occur during this period when the dialysis facility may not yet have had an opportunity to see the patient for treatment. Further, the dialysis facilities do not systematically receive data about their patients from the hospital when they are readmitted and, thus, quality improvement without such information would be challenging.

Path Forward Identified: While both CMS and the appellants agreed that measuring the patients who are readmitted within the first three days after hospital discharge is an important patient population to capture, the appellants expressed strong concerns about being held accountable for patients before the patients are seen by the dialysis unit. Consequently, CMS will exclude from the SRR measure numerator and denominator all index discharges resulting in readmissions occurring within the first three days following discharge from the acute care hospital. CMS will also develop a plan for monitoring the effect of excluding those 16 percent of readmissions occurring within three days of hospital discharge. Both parties agreed to work together to identify an appropriate methodology to capture these patients in the future.

Risk Adjustment Model

Concern: The appellants noted that additional clinical risk adjustment factors should be added to the measure to adequately address the underlying differences within the patient population. If these risk factors are not included, CMS should provide information and analyses on why they were not included in the model.

Path Forward Identified: CMS and the appellants agreed that they would work together to address this concern iteratively. CMS will work with the appellants to identify additional clinical risk adjustment factors that should be examined within one year. Once these are determined, CMS plans to conduct analyses and determine whether to incorporate additional risk adjustment factors within two years.

Information Sharing

Concern: The renal community noted that they need more timely access to data to take action on the measure.

Path Forward Identified: CMS agreed to examine the feasibility of providing more up-to-date crude readmission data to help drive quality improvement more rapidly. Further, the renal community and CMS agreed that they would work together to develop communication vehicles that will provide bidirectional information flow to each other as this measure is rolled out. CMS will identify a mechanism by which facilities can have access to more updated information on their crude readmission rates within one year.

Executive Committee of the NQF Board Results

The Executive Committee of the NQF Board ratified endorsement of measure #2496: Standardized Readmission Ratio (SRR) for Dialysis Facilities with the following three conditions:

1. Upon endorsement, CMS will exclude from the SRR measure numerator and denominator all index discharges resulting in readmissions occurring within the first three days following discharge from the acute care hospital.
2. Within one year, CMS will work with the appellants to identify and test additional risk adjustment factors.
3. Within one year, CMS will identify a mechanism by which facilities can have access to more updated information on their crude readmission rates.

Appendix A: Details of Measure Evaluation

2496 Standardized Readmission Ratio (SRR) for Dialysis Facilities

Submission | Specifications

Description: The Standardized Readmission Ratio (SRR) is defined to be the ratio of the number of index discharges from acute care hospitals that resulted in an unplanned readmission to an acute care hospital within 30 days of discharge for Medicare-covered dialysis patients treated at a particular dialysis facility to the number of readmissions that would be expected given the discharging hospitals and the characteristics of the patients as well as the national norm for dialysis facilities. Note that in this document, "hospital" always refers to acute care hospital.

Numerator Statement: Each facility's observed number of hospital discharges that are followed by an unplanned hospital readmission within 30 days of discharge

Denominator Statement: The expected number of unplanned readmissions in each facility, which is derived from a model that accounts for patient characteristics and discharging acute care hospitals.

Exclusions: Hospital discharges that:

- Are not live discharges
- Result in a patient dying within 30 days with no readmission
- Are against medical advice
- Include a primary diagnosis for cancer, mental health or rehabilitation
- Occur after a patient's 12th admission in the calendar year
- Are from a PPS-exempt cancer hospital
- Result in a transfer to another hospital on the same day

Adjustment/Stratification:

Level of Analysis: Facility

Setting of Care: Dialysis Facility

Type of Measure: Outcome

Data Source: Administrative claims

Measure Steward: Centers for Medicare and Medicaid Services

STANDING COMMITTEE MEETING [05/05/2014-05/06/2014]

1. Importance to Measure and Report: The measure meets the Importance criteria

(1a. Evidence, 1b. Performance Gap, 1c. High Impact)

1a. Evidence: **Y-17; N-6**; 1b. Performance Gap: **H-15**; **M-8**; **L-0**; **I-0;** 1c. Impact: **H-20**; **M-3**; **L-0**; **I-0**

Rationale:

- There was general agreement that this is a high impact area of measurement and there is opportunity for improvement, with the overall readmissions rate at approximately 30 percent and the readmissions rate for hemodialysis patients at approximately 36 percent.
- The Committee agreed that certain post-discharge assessments and changes in treatment at the dialysis facility may be associated with a reduced risk of readmissions.
- One committee member was concerned that the cause of the reduced risk of admissions had more to do with interventions by nephrologists, rather than the dialysis unit. Further, the

member noted that NQF guidance regarding evidence for outcome measures are not strong enough, suggesting that the quality, quantity, and consistency of the evidence should be evaluated even for outcome measures.

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2. Scientific Acceptability of Measure Properties: <u>The measure meets the Scientific Acceptability criteria</u>

(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)

2a. Reliability: **H-5**; **M-17**; **L-1**; **I-0** 2b. Validity: **H-1**; **M-16**; **L-7**; **I-0**

<u>Rationale</u>:

- The Standing Committee discussed a number of threats to validity of the measure, mainly focusing on whether the dialysis unit was the accountable entity for 30-day readmissions back to acute care facilities.
    - One member argued that there are limited interventions a dialysis unit can implement that would influence this particular measure. This member noted that there are limited structures that allow the medical director or the governing body of the dialysis unit to compel nephrologists to see patients immediately after discharge from an acute care facility.
    - Other Committee members noted that, while the locus of control may not be solely the dialysis facility, this measure and improvement efforts tied to it may be the type of impetus needed to improve care for this population. These members also noted that with patients spending nine to 12 hours in these units during the week, more could be done to improve care for these patients.

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3. Feasibility: H-11; M-9; L-4; I-0

(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c.Susceptibility to inaccuracies/ unintended consequences identified 3d. Data collection strategy can be implemented)

<u>Rationale</u>:

- The required data elements are routinely generated and used during care delivery and all data elements are in defined fields in electronic claims

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4. Use and Usability: H-3; M-11; L-10; I-0

(Meaningful, understandable, and useful to the intended audiences for 4a. Public Reporting/Accountability and 4b. Quality Improvement)

<u>Rationale</u>:

- Some members were concerned that the threats to validity would cause unintended consequences with the use of this measure in public reporting or accountability applications; however, there was limited evidence of unintended consequences identified.

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5. Related and Competing Measures

- No related or competing measures noted.

Standing Committee Recommendation for Endorsement: Y-8; N-12

6. Member and Public Comment

- NQF received 10 post-evaluation comments regarding this measure. There was one supportive comment, arguing that this measure addresses an important high priority for measurement with sufficient room for improvement in the care processes of dialysis units. The remaining comments raised concern about the measure specifications, including the numerator specifications, denominator specifications, attribution, temporal logic, risk adjustment, testing, and intended use.

Numerator Specifications

- Commenters were concerned that the numerator definition relies on an accurate determination of planned admissions using codes from a non-ESRD population. Commenters encouraged validation of these codes in the ESRD population through examination of patient-level data from the CMS dry run.
- Commenters raised strong concern that the numerator of acute admissions does not consider ESRD-specific patient management – noting that this list of admissions should be tailored to include nephrology–related treatment. Commenters requested clarification on whether PD catheter placement or omentectomy, vascular access creation, or transfusion for a transfusion dependent patient fall is included in the measure.

Denominator Specifications

- Specifically, a commenter disagreed that the number of discharges should not be the determinant of the denominator, but rather the number of readmissions should be based on the total number of patients treated in a facility. Further, the commenter argued that the current measure is vulnerable to being skewed by the effect of one or two complex patients requiring frequent hospitalization.

Attribution

- Many commenters challenged the notion that dialysis facilities have the ability to affect readmissions. Commenters explained that dialysis facilities often do not receive any direct communication from the discharging hospital or facility for their patients, and are not supported to have coordinated presence in multiple hospitals. One commenter noted that a patient might be readmitted before ever being seen in the dialysis unit. This commenter noted that these readmissions are not actionable by the dialysis facility and should not be included in the measure. Further, commenters noted a lack of evidence showing that changes in a dialysis unit are the factors driving performance improvement.
- Additionally, a commenter noted that the majority of dialysis facilities do not have the resources for additional personnel, such as case managers, to improve care coordination between dialysis facilities and other health care providers. This commenter argued that dialysis facilities have a role in reducing all-cause readmissions; however, these facilities may not be the locus of control to manage the coordination required.
- Further, the commenter discussed that a dialysis unit has no control over a hospital's decision to re-admit a patient. The hospital physician decides whether or not to admit a patient, and many of these admissions have nothing to do with the nephrological issues being addressed by the dialysis facility and should also be excluded from the measure.
- Commenters also requested clarification on the frequency of admissions that occur prior to the first post-acute visit to a dialysis facility.

Exclusions

- Commenters requested clarification on how specific patient cohorts are handled in the measure. Additionally, a commenter requested clarification on how readmissions as a result of unsuccessful kidney transplants are handled in the 6 months following the transplant. Another commenter requested clarification on the rationale for excluding index hospitalizations after the patient's 12th admission in the calendar year. Further, this commenter requested clarification on why patients without complete claims histories and those who are readmitted within the 1-3 days after discharge are not excluded from the measure.

Risk Adjustment

- Commenters noted concern with the validity of the two-stage random effects risk-adjustment model. In particular, they requested clarification on how the measure is impacted by communities where there is only one major hospital and/or one major dialysis facility versus communities where there is many of one or both. The Commenters also noted that the risk adjustment model should reduce the number of variables to those that are clinically relevant.
- Further, another commenter noted that other comorbidities should be included in the risk adjustment model, including sickle cell trait, angiodysplasia, myelodysplasia, diverticular bleeding, and asthma. Additionally, the commenter suggested adjusting for nursing home status in the risk adjustment model. Commenters also requested clarification on whether "poisoning by nonmedical substances" includes ongoing/chronic alcohol or drug abuse and not just acute events.

Reliability and validity testing

- Commenters noted that the testing results demonstrating correlations between hospitalization and re-hospitalization do not enhance confidence in the measure. The correlations with access and *urea reduction ratio (*URR) are statistically significant but of very low magnitude, and the correlation with the *standardized mortality ratio* (SMR) also has a low magnitude. Another commenter noted that the area under the curve for the for the receiver operating characteristic (ROC) curve (C-statistic) for the multivariable model of <0.65 is quite poor and suggests that the model is inadequate.
- Commenters requested clarification on the minimum sample size required to provide a statistically stable value for the measure. They expressed concern that many individual dialysis facilities may be too small with wide confidence intervals, limiting the statistical validity of the results.

Intended use in the specific program (QIP) and its appropriateness

- Commenters expressed concern regarding the appropriateness of the intended use of this measure for the CMS ESRD *Quality Incentive Program (*QIP). Commenters argued that the measure should focus only on admissions that are actionable for dialysis facilities, making stratification by primary diagnosis for readmission important.

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7. Consensus Standards Approval Committee (CSAC) Vote: November 21, 2014: Y-9; N-5; A-3

Decision: Approved for endorsement

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8. Board of Directors Vote: June 29, 2015: Y-7; N-0

Decision: Ratified for endorsement with the following three conditions:

1. Upon endorsement, CMS will exclude from the SRR measure numerator and denominator all index discharges resulting in readmissions occurring within the first three days following discharge from the acute care hospital.
2. Within one year, CMS will work with the appellants to identify and test additional risk adjustment factors.
3. Within one year, CMS will identify a mechanism by which facilities can have access to more updated information on their crude readmission rates.

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9. Appeals

- On January 28, 2015, the 30-day appeals period for the all-cause admission and readmission measures closed. NQF received an appeal submitted by the Renal Physicians Association (RPA) and co-signed by the American Nephrology Nurses Association, American Society of Nephrology, American Society of Pediatric Nephrology, Dialysis Patient Citizens, and Kidney Care Partners.
- NQF staff reviewed the appeal and determined that the issues raised were based on NQF process issues, rather than measure-specific issues. The appellant's main concern was that the CSAC did not consider the Committee evaluation and Member voting results, which is the basis for their challenge of the endorsement decision. The appellants note that the CSAC voted to approve the measure despite its having reached only 14 percent approval among NQF member councils and 40 percent approval by the Standing Committee.
- CSAC reviewed the appeal on February 10, 2015, and voted to uphold endorsement (92% approval).
    - CSAC members acknowledged the appellant's concerns about measure 2496, but remained supportive of its endorsement of the measure. The CSAC noted that the process followed in the review and endorsement of this measure is consistent with the approved process for measures on which consensus is not reached. Endorsement decisions require the CSAC to balance input received from the project Standing Committee, feedback by the membership from commenting, voting, and the NQF all-member call. The CSAC considered these transparent inputs and they were adequately considered in the final endorsement recommendation on this measure.
- The BOD Executive Committee reviewed the appeal on March 5, 2015, and requested that NQF bring together the appellant and the measure developer to explore opportunities for a shared path forward. NQF engaged in further consensus building in May 2015 regarding this measure and the measure was sent back to the Executive Committee when those efforts were complete.
- On June 29, 2015 the BOD Executive Committee unanimously voted to ratify the measure for endorsement with the following three conditions:

    1. Upon endorsement, CMS will exclude from the SRR measure numerator and denominator all index discharges resulting in readmissions occurring within the first three days following discharge from the acute care hospital.
    2. Within one year, CMS will work with the appellants to identify and test additional risk adjustment factors.
    3. Within one year, CMS will identify a mechanism by which facilities can have access to more updated information on their crude readmission rates.

Appendix B: Measure Specifications

2496 Standardized Readmission Ratio (SRR) for Dialysis Facilities

STATUS

Standing Committee Review

STEWARD

Centers for Medicare and Medicaid Services

DESCRIPTION

The Standardized Readmission Ratio (SRR) is defined to be the ratio of the number of index discharges from acute care hospitals that resulted in an unplanned readmission to an acute care hospital within 30 days of discharge for Medicare-covered dialysis patients treated at a particular dialysis facility to the number of readmissions that would be expected given the discharging hospitals and the characteristics of the patients as well as the national norm for dialysis facilities. Note that in this document, “hospital” always refers to acute care hospital.

TYPE

Outcome

DATA SOURCE

Administrative claims

LEVEL

Facility

SETTING

Dialysis Facility Dialysis Facility

NUMERATOR STATEMENT

Each facility’s observed number of hospital discharges that are followed by an unplanned hospital readmission within 30 days of discharge

NUMERATOR DETAILS

Hospitalizations are counted as events in the numerator if they met the definition of unplanned readmission that (a) occurred within 30 days of a hospital discharge and (b) was not preceded by a “planned” readmission that also occurred within 30 days of discharge. In summary, a readmission is considered “planned” under two scenarios [1]:

1. The patient undergoes a procedure that is always considered planned (e.g., bone marrow transplant) or has a primary diagnosis that always indicates the hospitalization is planned (e.g., maintenance chemotherapy).

2. The patient undergoes a procedure that MAY be considered planned if it is not accompanied by an acute diagnosis. For example, a hospitalization involving a heart valve procedure accompanied by a primary diagnosis of diabetes would be considered planned, whereas a

hospitalization involving a heart valve procedure accompanied by a primary diagnosis of acute myocardial infarction (AMI) would be considered unplanned.

1. Centers for Medicaid and Medicare Services. Hospital Quality Initiative: Measure Methodology website. "Planned Readmission Algorithm" [ZIP file]. Available at: http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HospitalQualityInits/Measure-Methodology.html. Accessed February 3, 2014.

DENOMINATOR STATEMENT

The expected number of unplanned readmissions in each facility, which is derived from a model that accounts for patient characteristics and discharging acute care hospitals.

DENOMINATOR DETAILS

All Medicare live discharges of dialysis patients from a hospital in a calendar year are considered eligible for this measure.

We calculate the expected number of unplanned readmissions by fitting a model with random effects for discharging hospitals, fixed effects for facilities and regression adjustments for a set of patient-level characteristics, including measures of patient comorbidities. The expectation for the given facility is computed assuming readmission rates corresponding to an "average" facility with the same patient characteristics and same discharging hospitals as this facility. Model details are provided in the Risk Standardization section below.

EXCLUSIONS

Hospital discharges that:

- Are not live discharges
- Result in a patient dying within 30 days with no readmission
- Are against medical advice
- Include a primary diagnosis for cancer, mental health or rehabilitation
- Occur after a patient's 12th admission in the calendar year
- Are from a PPS-exempt cancer hospital
- Result in a transfer to another hospital on the same day

EXCLUSION DETAILS

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